

LISTING OF THE CLAIMS

CLAIMS

1. (Currently amended) A device for applying a liquid to a substrate surface, the device comprising:

- a first chamber for carrying the liquid;
- a second chamber for carrying the liquid;
- a first aperture in the first chamber for communicating liquid from the first chamber to the substrate surface via a first conduit having outer sides of limited wettability to the liquid; and
- a second aperture in the second chamber for communicating liquid from the second chamber to the substrate surface via a second conduit having outer sides of limited wettability to the liquid;
- a body including a protrusion defined by the outer sides of the first and second conduits, wherein the body comprises a plane inner surface surrounding the protrusion and a plane outer surface parallel to, offset from, and surrounding the inner surface, the protrusion extending from the inner surface and having an end coplanar with the outer surface, wherein the end of the protrusion is wettable by the liquid, and wherein the end of the protrusion comprises a flow path extending from the first aperture to the second aperture, wherein
- the first and second conduits comprise inner sides wettable by the liquid;
- wherein the inner surface forms a peripheral recess surrounding the protrusion;
- the outer surface is of limited wettability to the liquid;

- 1 the first chamber has a first pressure for retaining the liquid when the flow path is remote from the
2 substrate surface;
- 3 the second chamber has a second pressure such that the difference between the first and second
4 pressures is oriented to promote flow of the liquid from the first chamber to the second chamber
5 via the flow path in response to the flow path being located proximal to the substrate surface and
6 the liquid in the device contacting the substrate surface;
- 7 the first and second pressures are such that the liquid is drawn towards at least the second
8 chamber in response to withdrawal of the flow path from the substrate surface;
- 9 at least one of the first chamber and the second chamber comprises a capillary network for
10 applying pressure to the liquid;
- 11 each capillary network comprises at least one of a plurality of parallel capillary members, a mesh,
12 a porous material, and a fibrous material; and further comprising
- 13 a plurality of first chambers each coupled to the flow path;
- 14 a plurality of second chambers each coupled to the flow path, wherein:
- 15 the flow path has one of a curved cross section and a rectangular cross section;
- 16 the first and second pressures are such that the liquid is drawn towards the first chamber and the
17 second chamber in response to withdrawal of the flow path from the substrate surface;
- 18 the second aperture surrounds the first aperture, and
- 19 being of layered construction, wherein each layer is formed from one of polymer, glass, silicon,
20 SU-8, photoresist, thermoplastic, metal, and ceramics.

Serial No.: 10/537,536

1 2. - 27. (Canceled)

2